REMARKS

A final Office Action was mailed on February 9, 2005. Claims 1 – 22 are pending in the present application. In the present Response, Applicant amends claims 1 and 12. No new matter is added. Support for the amendments may be found, for example, in Applicant's specification at page 8, lines 4 – 10, page 9, lines 6 – 16, page 10, line 34 – page 11, line 9, page 11, lines 35 – 36, and page 13, lines 13 – 15.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 2, 10 – 13, 21 and 22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,236,996 to Bapat et al. in view of U.S. Patent No. 6,594,656 to Arlein. Claims 3 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bapat et al. in view of Arlein and U.S. Patent No. 6,735,615 to Iwayama et al. Claims 4 – 9 and 15 - 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bapat et al. in view of Arlein and U.S. Patent No. 5,848,415 to Guck. Applicant amends claims 1 and 12 to further clarify the nature of his invention, and respectfully traverses these rejections.

In a Response mailed September 27, 2004 to an Office Action of June 24, 2004, Applicant made the following arguments:

> According to Applicant's invention, a managed object (MO) is provided as one or more stored procedures coupled with one or more tables that are stored inside a database in the same manner as other information in the database. According to this configuration, "the user application 21 can access the MOs 30 and 31 only by having the interfaces A through D for accessing the database 24 without using a special protocol since the MOs 30 and 31 are provided in the database 24 (see, e.g., page 13, lines 4 – 8 of Applicant's specification).

> Further, "the MOs 30 and 31 are not provided separately from the database 24 as in the conventional method, but are provided inside the database 24. This enables the MOs 30 and 31 and the database 24 to share

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data, thus reducing an amount of communication and a total processing time" (see, e.g., page 14 line 33 to page 15, line 2 of Applicant's specification). As a result, "by providing the MOs 30 and 31 inside the database 24, the transaction functions of the MOs 30 and 31 can be realized by using the transaction function[s] of the database 24 as it is. Thereby, no development of a new transaction function is required, thus resulting in reduced costs" (see, e.g., page 15, lines 7 – 13 of Applicant's specification).

Bapat discloses a system and method for restricting database access relating to managed objects (see, e.g., abstract of Bapat). A database stores information relating to events and user access rights (see, e.g., column 16, lines 40 – 45 of Bapat).

The Examiner notes that user requests for information must be submitted as SQL queries to a conventional database management system (DBMS) 280 of Bapat (see, e.g., column 18, lines 25 – 30 of Bapat), suggesting that DBMS 280 may be considered to be equivalent to Applicant's claimed managed object (MO). However, unlike Applicant's claimed invention, Bapat fails to disclose or suggest that DBMS 280 manages the state of an external apparatus by means of a control interface provided in DBMS 280.

The Examiner suggests that access privileges module 284 of Bapat is equivalent to Applicant's claimed control interface (see, e.g., column 16, lines 44 – 50 of Bapat). As disclosed by Bapat, access privileges module 284 is used to control user access privileges in regard to database tables storing database information. However, unlike Applicant's claimed invention, access privileges module 284 does not provide a means for DBMS 280 to manage the state of an external apparatus.

The Examiner acknowledges that Bapat fails to disclose an MO provided in the database, and suggests that this feature would have been obvious in light of Arlein. Arlein discloses a database system including a trigger gateway that acts to preprocess and/or act upon trigger commands targeted for the database (see, e.g., abstract of Arlein). The Examiner notes that Arlein discloses that databases that include DBMSs which function to manage data stored in the database and to process database commands (see, e.g., column 1, lines 20 – 37 of Arlein). None-the-less, as in the case of Bapat, and in sharp contrast to Applicant's claimed invention, Arlein does not disclose or suggest that these DBMSs in addition operate to manage the state of an external apparatus.

The Examiner finds these arguments to be unpersuasive, again suggesting that the

DBMS 280 of Bapat is equivalent to Applicant's claimed MO and that the access

privileges module 284 of Bapat is equivalent to Applicant's claimed control interface.

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The Examiner asserts that users' computers qualify as "external apparatus", and that user requests for DBMS access represent states of a user computer. From this position, the Examiner suggests that the selective access control provided by access privileges module 284 of Bapat is equivalent to Applicant's claimed control interface in the database for a MO performing outer control from said database.

Applicant amends independent claim 1 to clarify that the MO as claimed includes a table storing information on the state of the external apparatus and a stored procedure defining a method related to the table, and to specify that the MO performs outer control of the external apparatus from the database through a control interface.

Applicant further explains the operation of the invention as claimed with reference to portions of the specification.

For example, further describing the table and stored procedures of the MO:

The MO, which is provided inside the database 24, represents the managed apparatus 13 in functional unit by modeling the managed apparatus 13, and having information and an operation for each functional unit. Thereby, the user application 21 on the user side can access the MO only by operating the database 24.
(page 8, lines 4 – 10)

Each of the MOs 30 and 31 includes at least one table for storing information retained thereby and may include a plurality of tables depending on the information. In FIG. 5, the MO 30 includes tables 32 and 33, and the MO 31 includes a table 34. Stored procedures 36, 37, and 38 are provided in the tables 32, 33, and 34, respectively. For instance, a method executed when the table 32 is updated and a method for instructing the table 32 to perform a batch of operations or a complicated operation are defined as the stored procedure 36.
(page 9, lines 6 – 16)

... information on the managed apparatus 13 is stored in the table 32 inside the MO 30 by the interface G ...
(page 13, , lines 13 – 15)

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For example, further describing the control of an external apparatus by the MO through the control interface:

> An interface (for instance, an interface E shown in FIG. 5) for notifying the protocol conversion part 25 of operation information when control of the managed apparatus 13 is requested through an interface (for instance, the interface C) with the user application 21 or an operation request made by the other MO (for instance, an interface I).
> (page 10, line 34 – page 11, line 4)

> An interface (for instance, an interface F shown in FIG. 5) for returning the result of an operation request when the operation request is made to the protocol conversion part 25 through, for instance, the interface E.
> (page 11, lines 5 – 9)

> The interfaces E and F enable control of the managed apparatus.
> (page 11, lines 35 – 36)

Applicant respectfully submits that, in sharp contrast to the invention claimed by Applicant's amended independent claim 1, Bapat fails to disclose or otherwise suggest that the DBMS 280, in addition to storing conventional tables of information (see, e.g., column 16, lines 40 – 41 of Bapat), stores a procedure defining a method related to each table as is claimed for Applicant's MO. Moreover, Applicant submits that Bapat fails to disclose or otherwise suggest that the access privileges module 284 provides a control interface that performs outer control of an external apparatus. Rather, access privileges module 284 simply controls access to tables within the DBMS 280. Applicant submits that these elements of Applicant's claimed invention in addition not disclosed or suggested by Bapat when combined with Arlein, which is applied by the Examiner for teaching only that a management system such as a DBMS may be incorporated within a database

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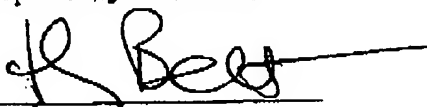
Accordingly, Applicant respectfully submits that independent claim 1 is not made obvious by the combination of Bapat and Arlein, and is therefore allowable. Applicant applies the above arguments to furthe submit that independent claim 12, which has been amended similarly to amended claim 1, is allowable. As claims 2 – 11 and 13 – 22 respectively depend from allowable claims 1 and 12, Applicant further submits that claims 2 – 11 and 13 – 22 are allowable for at least this reason.

CONCLUSION

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that claims 1 – 22, including independent claims 1 and 12 and the claims that depend therefrom, stand in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,

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